



## SUBSTITUTE SPECIFICATION

### ROCKING CHAIR

#### Prior Applications

5     This §371 National Phase patent application bases priority  
on International Application No. PCT/DE2003/003184, filed on  
September 24, 2003, which in turn bases priority on German  
Application No. DE 102 45 173.7, filed on September 26, 2002.

#### Background of the Invention

##### 1. Field of the Invention

10     The invention relates to a rocking chair with an  
oscillating base, a seating surface fixed thereto and a back  
rest according to the preamble of the main claim.

##### 2. Description of the Prior Art

15     Such rocking chairs differ from those which normally have  
arcuate runners in the lower region on which they can oscillate  
backwards and forwards in that they are provided in a base with  
a swinging or oscillating mechanism enabling them to be  
installed on carpets, where a conventional runner-type rocking  
chair would be excessively decelerated, so as to enable rocking  
20     to take place in much the same way as with a conventional  
rocking chair. However, unlike in the case of the latter, the  
back rest stays in its horizontal inclination and the latter  
does not change during rocking.

Conventionally oscillating bases with oscillating,

pendulum or tension parallelograms are used, where soon an unsteady impression is given to the chair as a result of the numerous lever arms and joints. This is not desired and what is, in fact, required is a steady rocking adapted to a soft, easy chair, together with long-term durability.

The problem also arises that some of these rocking chairs, and in particular those made from wood, constructed with rods which closely slide past one another and in which small children, pets or even the user can unintentionally engage or intervene, and can be subject to significant injury levels during chair movement.

Therefore, the problem of the invention is to provide a stable construction for a rocking chair where such disadvantages do not arise. At the same time, a very comfortable, far-reaching oscillating movement with low overall height is to be ensured.

#### Summary of the Invention

This problem is solved with a rocking chair having the features of the main claim. Advantageous developments are provided by the subclaims.

It is particularly advantageous that a downwardly open, U-shaped device has a holding arc with struts to the seating surface and serves as a central fixing and covering device, ~~whilst~~ while also being constructed in such a solid way that

there can be no clearance between the seating surface and the holding arc. Said holding arc is constructed with flat legs, which at their downwardly open ends are connected to the lower section of an oscillating parallelogram, so that joints or  
5 articulations are only tension loaded.

Thus, in T-shaped manner, the end sections of the holding arc are connected with elements at right angles thereto, extending substantially parallel to the floor and still firmly connected to the seating surface, whereby to said  
10 elements are attached, by means of swivel joints and in substantially vertical manner, rods which are inclined outwards away from the ~~centre~~ center of the holding arc and preferably in the upwards direction, and which in an upper area of the oscillating parallelogram and just below the seating surface,  
15 are connected to cross-members, which are loaded on a supporting column, in which there may optionally be a vertical adjustment, and can be rotated with respect to a base plate, but whose inclination is fixed with respect to the floor.

As a result of the inclined oscillating rods with an  
20 arrangement at the end of the cross-member, it is ensured that even with the maximum rocking movement, the U-shaped arc cannot so closely correspond with the upper ends of the oscillating support that jamming in is possible. In the lower area, the U-shaped arc is connected to the support elements, so that also

here the oscillating rods cannot jam.

As a result of the chosen, flat construction of the U-shaped holding arc, there can also be no jamming contact with the supporting column.

5       According to a preferred embodiment, on the U-shaped holding arc is also provided a locking bolt with a handle projecting over the casing, so that the bolt mounted on the holding arc can engage in corresponding bolt receptacles on the cross-member fixed to the column. The bolts are preferably  
10       constructed in such a way that a rod operated with the handle engages in the same way in both cross-members enabling the chair to be locked in a specific oscillating position.

      To additionally avoid engagement in the mechanism, a fixed casing can be attached to said cross-members, which are still  
15       fixed with respect to the base plate, but optionally rotatable with the cross-members, having solely in an upper area where the struts are provided between the legs and the U-shaped holding arc one or more optionally slot-like openings through which the struts can pass when rocking.

20       Laterally and, in particular, adjacent to the oscillating rods the casing always has a covering action, so that no engagement is possible. In its lower region the casing extends to just above a base plate and can optionally also be provided with a brush-like edge to ensure that no dust penetrates from

below into the casing. Simultaneously, during chair rotation, dust is cleaned from the base plate in this way.

The desired rigidity of the means results more especially from the extremely stable constructed, lower longitudinal sections of the oscillating parallelogram, preferably welded over a long area of the flat lateral surface of the U-shaped holding arc. There are only eight swivel points in the parallelogram lever system which are located in the four extremities of the oscillating rods and are uniformly loaded during oscillation. The U-shaped holding arc ensures that transverse loads are uniformly introduced into the parallelogram lever system.

#### Brief Description of the Drawings

Further advantages and features of the present invention can be gathered from the following description of the preferred embodiment relative to the attached drawings, wherein show:

FIG. 1 shows a perspective view of a rocking chair according to the invention with a still uncased oscillating base[.];

FIG. 2 shows a view of the back rest, ~~where the casing is shown as a broken line element surrounding the oscillating base.~~ of the rocking chair;

FIG. 3 shows a view corresponding to FIG. 1 ~~where the rear or trailing edges are shown in broken line transparent form.~~

wherein the rocking chair casing covers the oscillating base;  
and

FIG. 4 shows a sectional view from the side, where it is  
once again possible to see the shape of the circular casing in  
5 the upper area of the oscillating system, together with the  
sloping arrangement of the oscillating rods. along lines 4-4 in  
FIG. 3.

#### Detailed Description of the Preferred Embodiment

The rocking chair shown in FIG. 1 rests with its base  
10 plate 26 on a random floor surface. The seating surface 12 and  
back rest 14 are connected by means of struts 28 (which unlike  
what is shown in the drawing preferably engage on the arm rests  
30) with a U-shaped, downwardly open holding element 16 are  
connected to an oscillating parallelogram. The latter has four  
15 oscillating rods 18, which are positioned substantially  
vertically, but in the upper area in outwardly sloping manner  
between cross-members 20, 22. Cross-member 20 consists of a  
pair of parallel spaced apart longitudinal members. In not  
shown manner, the seating surface 12 and back rest 14 are  
20 provided with a conventional recliner mechanism, which in the  
case of a rearward inclination of the back rest 14 advances the  
seating surface 12, so that the ~~centre~~ center of gravity is  
maintained.

In FIG. 2, the same structure is shown from the back.

Additionally, in FIG. 3 there is a casing shown with internal elements in broken line form and carrying the reference numeral 32, which engages closely on the U-shaped holding arc, but which preferably at point 34 is not fixed to said holding arc but, instead to the cross-members 22 fixed to the base plate 26, but optionally rotatable.

FIG. [4] 3 shows the casing 32 in perspective. FIG. [5] 4 shows from the side the top of the casing 32 constructed arcuately in the vicinity of the holding arc for providing a movement possibility for the struts 28. It is clearly possible to see the oscillating parallelogram with the oscillating rods 18 between the upper cross-member 22 and the lower cross-member 20, the holding arc 16 already being moved slightly forwards with respect to the column 24.

In a preferred, not shown embodiment, a bolt is provided on the holding arc 16, and is preferably equipped with two projections or stud portions engaging in corresponding, multiply provided notches or holes, so as to lock the chair in a random position. For this purpose, in much the same way as the top of the casing 32, the element 22 can be arcuately constructed corresponding to the oscillating movement of element 16. Alternatively, an additional arcuate perforated rail can be provided.

In a preferred embodiment, there is also a movement-synchronized foot stool, which can also be attached in the holding arc 16 by means of corresponding stable struts. A reliable fixing of the struts can be ensured by a width of the lateral portions of the holding arc substantially corresponding to the width of the arm rests, i.e., representing a multiple of the oscillating rod width.